

CLAIMS

What is claimed is:

1. An electric vehicle drive assembly comprising:
a suspension system mounted to a vehicle frame;
an axle mounted to said suspension system, said axle defining a first axis;
a wheel hub mounted to said vehicle axle, said wheel hub rotatable about said first axis;
a planetary gear set mounted to said axle to drive said wheel hub;
an electric motor mounted to a member of said vehicle frame, said electric motor mounted substantially parallel to said vehicle axle; and
a drive shaft extending from said electric motor to drive said planetary gear set.
2. The electric vehicle drive assembly as recited in claim 1, wherein said planetary gear set includes a ring gear, said drive shaft driving an outer diameter teeth set about an outer diameter of said ring gear.
3. The electric vehicle drive assembly as recited in claim 2, wherein said planetary gear set includes an input pinion meshed with said outer diameter teeth set, said input gear pinion by said drive shaft.
4. The electric vehicle drive assembly as recited in claim 3, wherein said input pinion defines a pinion axis substantially parallel to said first axis.
5. The electric vehicle drive assembly as recited in claim 1, wherein said electric motor is mounted offset and substantially parallel to said first axis.

6. The electric vehicle drive assembly as recited in claim 1, wherein said planetary gear set includes a stationary sun gear.

7. The electric vehicle drive assembly as recited in claim 1, wherein said planetary gear set includes a plurality of planet gears rotatably mounted to a planet carrier, said planet carrier driving an out put shaft to said wheel hub.

8. An electric vehicle drive assembly comprising:
- a suspension system mounted to a vehicle frame;
 - an axle mounted to said suspension system, said axle defining a first axis;
 - a first and second wheel hub mounted to opposed ends of said axle, said first and second wheel hub rotatable about said first axis;
 - a first planetary gear set mounted to said axle to drive said first wheel hub, said first planetary gear set having a first ring gear;
 - a second planetary gear set mounted to said axle to drive said second wheel hub said second planetary gear set having a second ring gear;
 - a first and second electric motor mounted to a cross member of said vehicle frame, said first and second electric motor mounted substantially parallel to said vehicle axle;
 - a first input pinion engageable with an outer diameter of said first ring gear;
 - a first drive shaft extending from said first electric motor to drive said first input pinion;
 - a second input pinion engageable with an outer diameter of said second ring gear; and
 - a second drive shaft extending from said second electric motor to drive said second input pinion.

9. The electric vehicle drive assembly as recited in claim 8, wherein said input pinion defines an axis substantially parallel to said first axis.

10. The electric vehicle drive assembly as recited in claim 8, wherein said first and second electric motor are mounted substantially above said axle relative the ground.

11. The electric vehicle drive assembly as recited in claim 8, wherein each of said first and second planetary gear sets include a stationary sun gear.

12. The electric vehicle drive assembly as recited in claim 8, further comprising
a first plurality of planet gears engageable with an inner diameter of said first ring gear;

a first planet carrier rotatably mounting said first plurality of planet gears;

a first output shaft driven by said planet carrier, said first output shaft driving said first wheel hub;

a second plurality of planet gears engageable with an inner diameter of said second ring gear;

a second planet carrier rotatably mounting said second plurality of planet gears;

a second output shaft driven by said second planet carrier, said second output shaft driving said second wheel hub;